

2 WATT DC – DC CONVERTERS

-55°C TO 185°C OPERATION



9 – 20 VOLTS DC INPUT

This DC-DC Converter is recommended for high temperature applications requiring good efficiency at low power as well as a small package size.

Features

- Efficiency Optimized for low power applications
- GaN switching transistor at fixed 250 kHz. for low ripple
- Magnetically coupled regulation
- "Inhibit-not"
- Internal soft start
- Input – Output Isolated

Specifications

INPUT: 12 VDC nominal
Range: 9 to 20 VDC (Start)
 8 to 20 VDC (Run)

ISOLATION:

10 Megohms Minimum
 Input to case: 500 VDC
 Input to output: 500 VDC
 Output to case: 500 VDC

ENVIRONMENT:

Case Temperature Range:
 Operating -55°C to 185°C
 Storage: -65°C to +185°C

Shock: MIL-STD-810 Method 516.5 Procedure III

Random Vibration: MIL-STD-883 Method 2026, test condition 2H

Acceleration: MIL-STD 883 Method 2001, test condition A1, Y1 direction, 500G's

Grades T:

Full Power Output at $T_{case} = +185^{\circ}C$

To operate converter, open inhibit-not pin

To inhibit converter, connect inhibit-not pin to input return

If needed use EMI Filter MDI Model 3747 available separately

WEIGHT: 18 grams typical



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MODEL 3772

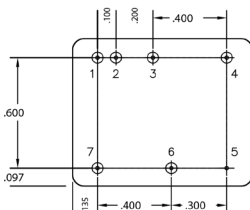
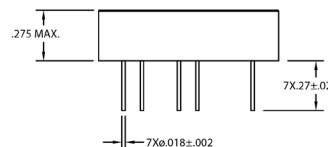
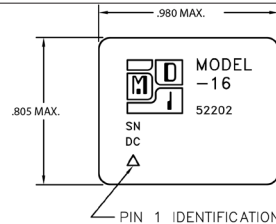
SINGLE OUTPUT DEVICES		3772-S3.3 (2W)			3772-S05 (2W)			3772-S12 (2W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output set voltage	—	+3.1	+3.3	+3.5	+4.7	+5	+5.3	+11.5	+12	+12.5
Output current	$V_{in\ min} - V_{in\ max}$	0.06	—	0.6A	0.04	—	0.6A	0.017	—	0.017A
Efficiency	$P_{out} = \text{max rated load}$	62%	67%	—	63%	70%	—	64%	72%	—
Line regulation	$V_{in\ min} - V_{in\ max}$ $P_{out} = \text{max rated load}$	—	100mV	200mV	—	110mV	200mV	—	200mV	350mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	100mV	200mV	—	100mV	200mV	—	150mV	300mV
Output ripple	F.L. BW 2 MHz mV _{pp}	—	30	50	—	30	50	—	60	120

SINGLE OUTPUT DEVICES		3772-S15 (2W)			3772-S28 (2W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX
Output set voltage	—	+14.5	+15	+15.5	+27.0	+28.0	+29.0
Output current	$V_{in\ min} - V_{in\ max}$	0.013	—	0.133A	0.007	—	0.071A
Efficiency	$P_{out} = \text{max rated load}$	65%	72%	—	65%	72%	—
Line regulation	$V_{in\ min} - V_{in\ max}$ $P_{out} = \text{max rated load}$	—	200mV	400mV	—	400mV	700mV
Load regulation	$P_{out} = 10\%$ to F.L.	—	200mV	400mV	—	400mV	700mV
Output ripple	F.L. BW 2 MHz mV _{pp}	—	70	150mV	—	180mV	300mV

DUAL OUTPUT DEVICES		3772-D05 (2W)			3772-D12 (2W)			3772-D15 (2W)		
PARAMETER	CONDITION	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
Output set voltage	+ $I_{out} = -I_{out}^+$	+4.7	+5.0	+5.3	+11.5	+12.0	+12.5	+14.5	+15.0	+15.5
Output current*	$V_{in\ min} - V_{in\ max}$	0.02A	—	0.2A	±0.008A	—	±0.083A	±0.007A	—	±0.067A
Efficiency	$P_{out} = \text{max rated load}$	63%	70%	—	64%	72%	—	65%	72%	—
Line regulation	$V_{in\ min} - V_{in\ max}$ $P_{out} = \text{max rated load}$	—	±110mV	±200mV	—	±200mV	±350mV	—	±200mV	±400mV
Load regulation†	$P_{out} = 10\%$ to F.L.	—	±100mV	±200mV	—	±150mV	±300mV	—	±200mV	±400mV
Output ripple	F.L. BW 2 MHz mV _{ppmV}	—	30mV	50mV	—	60mV	120mV	—	70mV	150mV

Notes: *Up to 70% full power available from either output if rated output power is not exceeded; †balanced load conditions.

Model No.	Case Style	Pin Count	Mounting
3772	16	7	Seam Weld Flangeless PCB Mount



Pin Outs

3772-SXX	3772-DXX
Pin 1 +12VDC Input	Pin 1 +12VDC Input
Pin 2 +12VDC Input Rtn	Pin 2 +12VDC Input Rtn
Pin 3 Output Pos	Pin 3 Output Pos
Pin 4 Output Rtn	Pin 4 Output Rtn
Pin 5 Case	Pin 5 Case
Pin 6 N/C	Pin 6 Output Neg
Pin 7 Inhibit-not	Pin 7 Inhibit-not

GRADE LEVELS:
 Please specify GRADE LEVEL for your application. EU grade units will be shipped if no option is specified.

EU Engineering Units
 T Screened Units

For Heat Removal and Mounting Recommendations See MDI application notes on mounting considerations for DC-DC Converters